Microsoft Innovation & Policy Center
901 K Street, NW 11th Floor
Washington, DC 20001

Tel 202-263-5900
Fax 202-783-0583
http://www.microsoft.com/

March 29, 2019

VIA ELECTRONIC FILING

Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, DC 20554

Re: GN Docket No. 18-238
WC Docket No. 11-10

Madam Secretary:

This letter provides notice of an oral ex parte presentation to the Commission in the above-captioned dockets. On March 27, 2019, undersigned counsel, along with John Kahan, Paul Garnett, and Allen Kim of Microsoft Corporation, met with Preston Wise in Chairman Pai's office, to discuss broadband mapping.

Mr. Kahan discussed how the Commission's broadband availability data, which underpins FCC Form 477 and the Commission's annual Section 706 report, appears to overstate the extent to which broadband is actually available throughout the nation. It was suggested that the Commission narrow the scope of its Form 477 data collection by asking carriers to report data measuring where they actually provide broadband service, versus areas they could serve.

Mr. Kahan also suggested that until the accuracy of the Form 477 broadband data is improved, the FCC could combine its subscription data, as well as other third-party broadband data, to compliment the Commission's survey data and provide a more complete picture of broadband availability. Ultimately, if the FCC is to address the larger concept of broadband availability, beyond who has access or who subscribes to broadband, it will need to better define the concept.

Finally, Mr. Kahan committed to continue to make Microsoft's data sets on broadband usage publicly available, to assist the Commission in better measuring where rural citizens are accessing the Internet at throughput speeds consistent with those reported on Form 477.

A copy of Microsoft's presentation slides is enclosed for the record. Should you have any questions, please contact the undersigned directly.

Sincerely,

MICROSOFT CORPORATION

Paula Boyd, Senior Director
U.S. Government and Regulatory Affairs
901 K Street, N.W., 11th Floor
Washington, DC 20001
202-263-5946

David A. LaFuria
Lukas, LaFuria, Gutierrez & Sachs, LLP
8300 Greensboro Drive, Suite 1200
Tysons, VA 22102
703-584-8678

Counsel to Microsoft Corporation

Enclosure

cc: Preston Wise
John Kahan
Paul Garnett
Allen Kim

Broadband mapping meeting with Preston Wise - FCC

John Kahan, Chief Data Analytics Officer

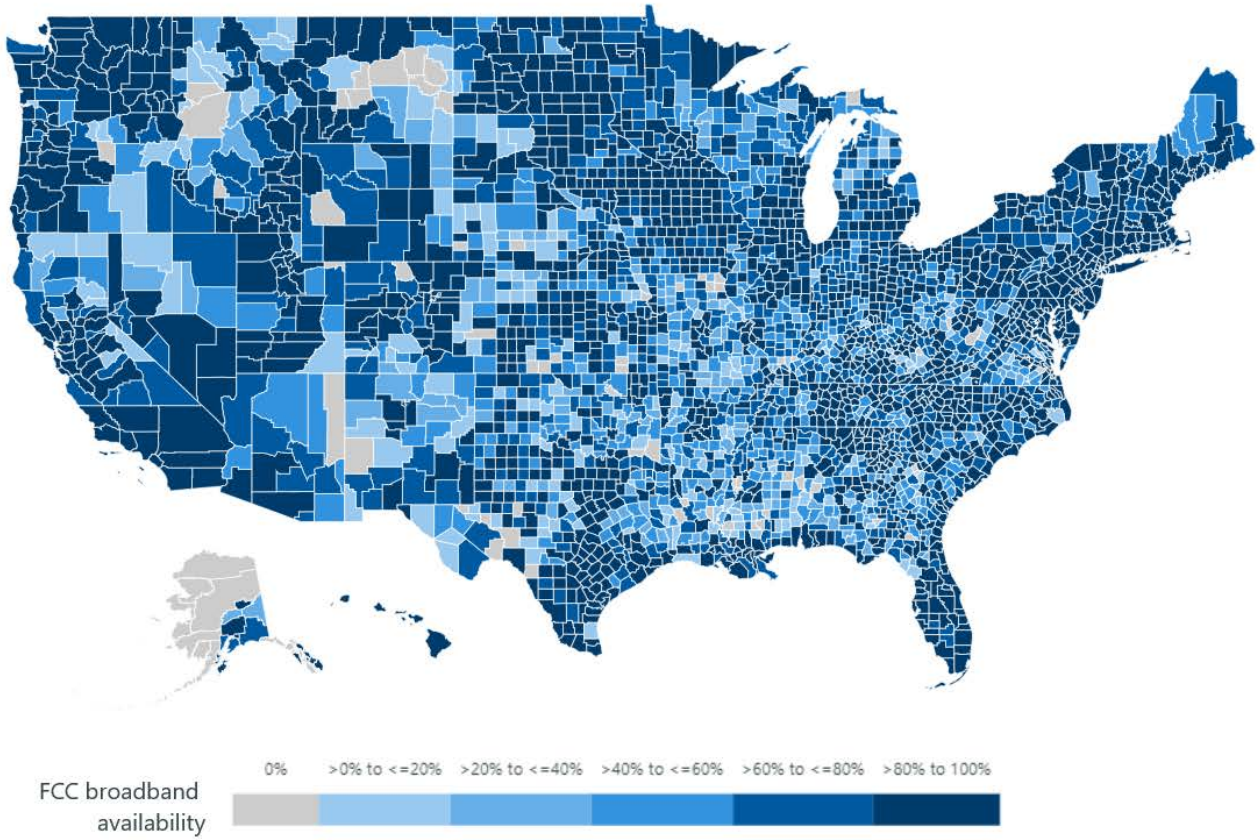
March 27, 2019

Agenda

- Review FCC broadband availability and broadband usage based Microsoft data.
- Discuss using FCC Subscription data, Microsoft Usage data, and other 3rd party public data to help judge broadband progress and identify future investments.
- Explore the definition of “broadband availability” and any steps we can jointly take to define “broadband availability” from a consumer perspective
- Discuss draft FCC 2019 broadband report.

Broadband availability based on FCC Form 477 data

- 2018 FCC Broadband report states broadband is available to ~92% of people in the United States
- ~24.7M people do not have access to broadband



* FCC broadband has or "could" provide greater than or equal to 25Mbps / 3Mbps

Microsoft

FCC broadband map

FCC and Microsoft

Congressional districts

State - filter

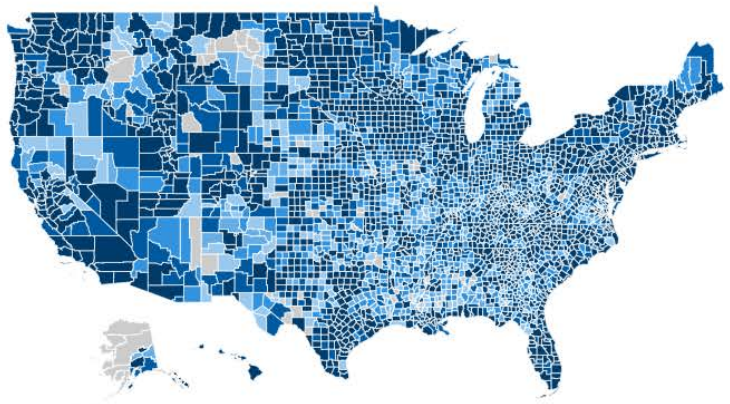
- Select all
- Alabama
- Alaska
- Arizona
- Arkansas
- California
- Colorado
- Connecticut
- Delaware
- District of Columbia
- Florida
- Georgia
- Hawaii
- Idaho
- Illinois
- Indiana
- Iowa
- Kansas
- Kentucky
- Louisiana
- Maine
- Maryland
- Massachusetts

Data sources: FCC 2018 Broadband Report based on Form 477 data from December 2016 and Microsoft data from September 2018

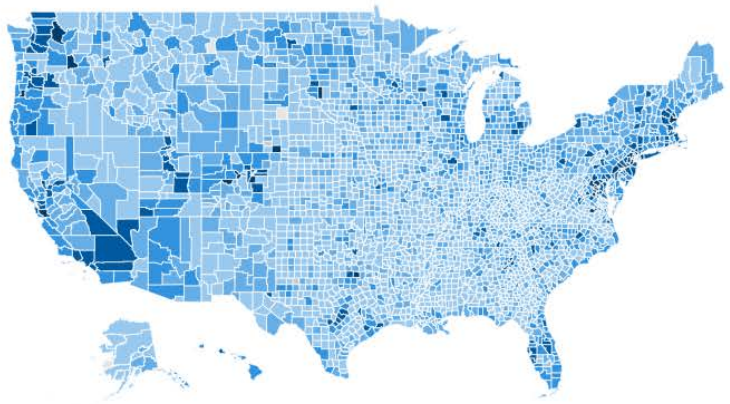
Broadband usage based on Microsoft data

- ~49% of people access the internet at broadband speeds based on Microsoft usage data
- Availability does not equal usage; however usage gives us the ground truth in the progress we are making in broadband adoption.

FCC indicates broadband is not available to 24.7M people



Microsoft data indicates 162.8M people do not use the internet at broadband speeds



FCC and Microsoft

Congressional districts

State - filter

- Select all
- Alabama
- Alaska
- Arizona
- Arkansas
- California
- Colorado
- Connecticut
- Delaware
- District of Columbia
- Florida
- Georgia
- Hawaii
- Idaho
- Illinois
- Indiana
- Iowa
- Kansas
- Kentucky
- Louisiana
- Maine
- Maryland
- Massachusetts

* FCC fixed broadband has or "could" provide greater than or equal to 25Mbps / 3Mbps

FCC broadband availability: 0% | >0% to <=20% | >20% to <=40% | >40% to <=60% | >60% to <=80% | >80% to 100%

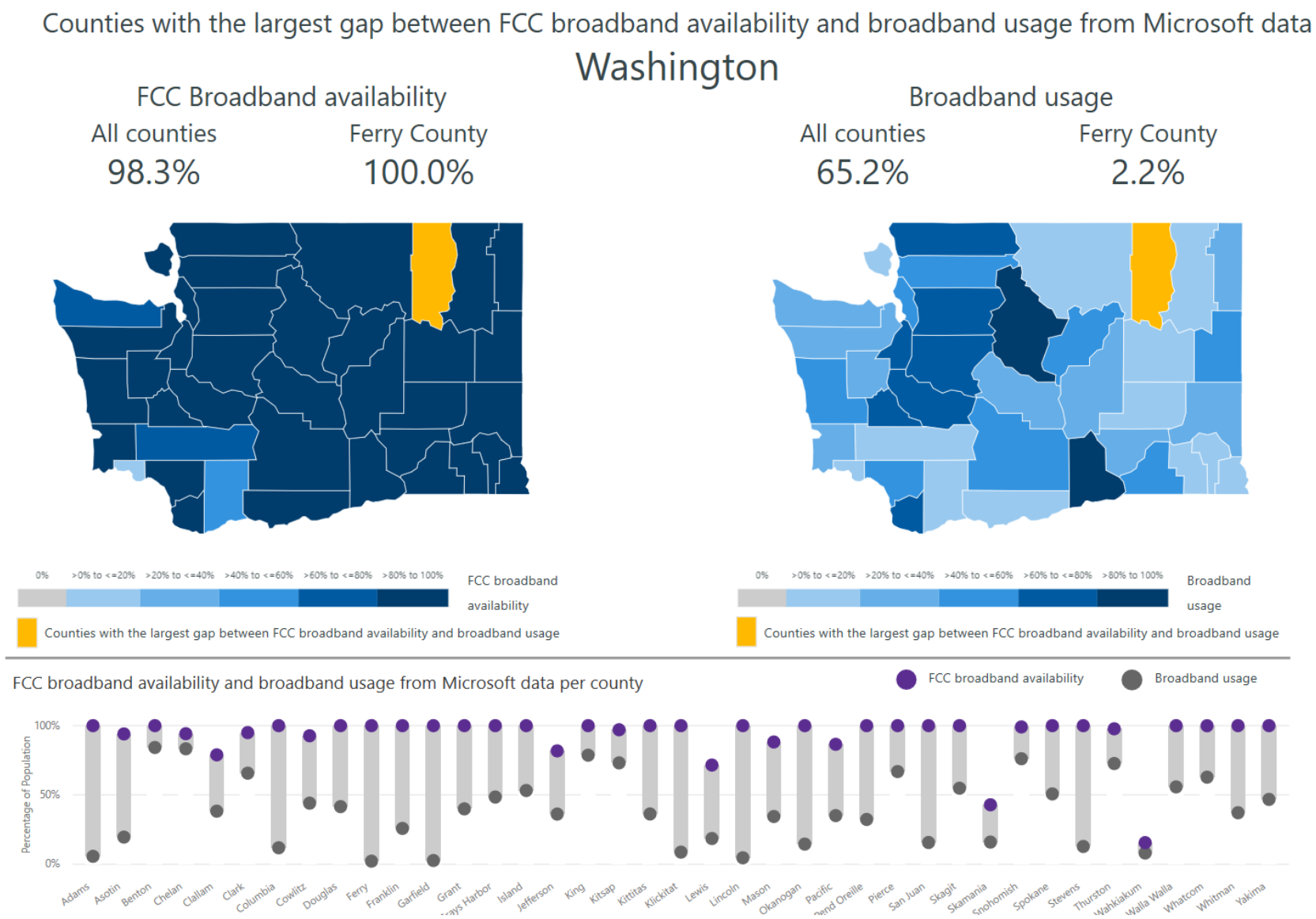
Broadband speed greater than or equal to 25Mbps

Broadband usage: 0% | >0% to <=20% | >20% to <=40% | >40% to <=60% | >60% to <=80% | >80% to 100%

Data sources: FCC 2018 Broadband Report based on Form 477 data from December 2016 and Microsoft data from September 2018

Form 477 sample data format: 000000000000000,DBAName,0,0,0,0,0,0,0

There are counties in every state with a significant gap between ISP stated broadband availability versus broadband usage (based on Microsoft data)



Microsoft

State filter

- South Dakota
- Tennessee
- Texas
- Utah
- Vermont
- Virginia
- Washington
- West Virginia
- Wisconsin
- Wyoming

County filter

- Adams County
- Asotin County
- Benton County
- Chelan County
- Clallam County
- Clark County
- Columbia County

FCC broadband availability has or "could" provide greater than or equal to 25Mbps / 3Mbps

Broadband usage based on internet connection speed greater than or equal to 25Mbps

Data sources: FCC 2018 Broadband Report based on Form 477 data from December 2016 and Microsoft data from September 2018

Form 477 sample data format:

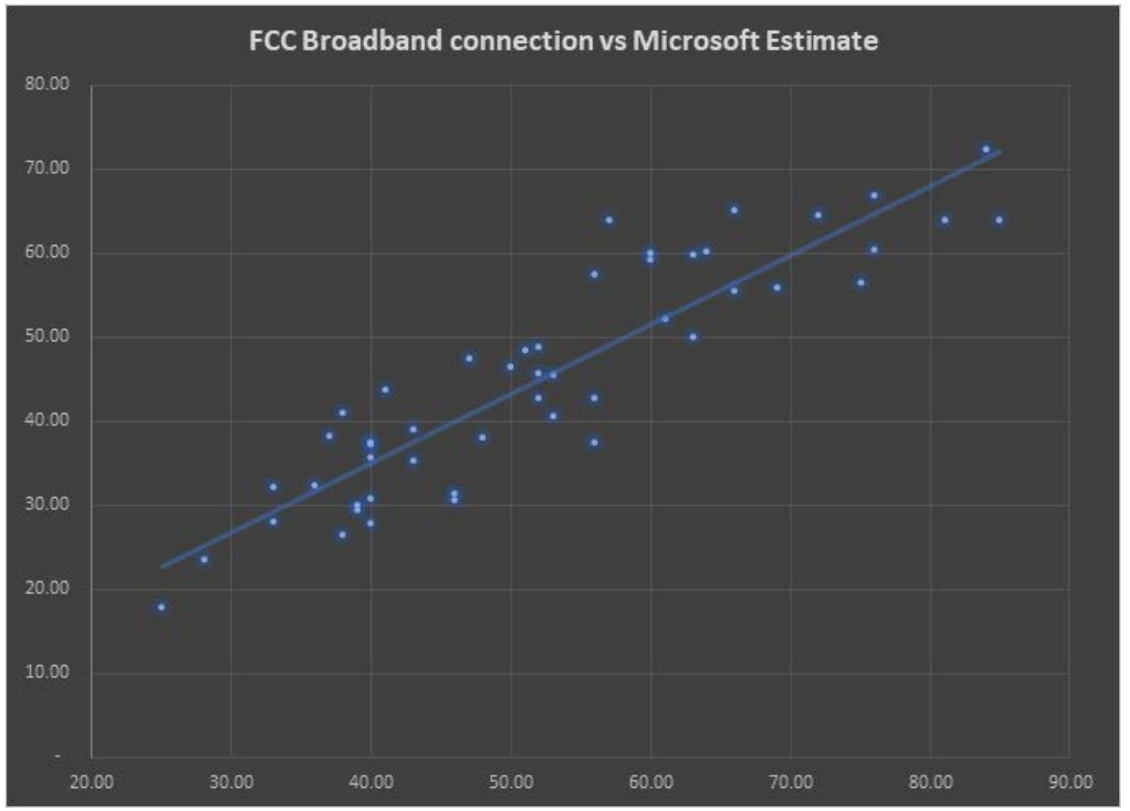
Use FCC Subscription data, Microsoft Usage data, and other 3rd party public data to show a more transparent view of today's actual gaps in broadband progress.

- There is a ~90% correlation between the ISP self stated “usage” data known as “Connection data” and broadband usage based on Microsoft data.

Figure 32 - Continued
Residential Fixed Connections and Households by State as of June 30, 2017
(Connections and households, in thousands)

State	Households	At least 200 kbps in at least One Direction		At least 10 Mbps Down and 1 Mbps Up		At least 25 Mbps Down and 3 Mbps Up		At least 100 Mbps Down and 10 Mbps Up	
		Connections	Subscribership Ratio	Connections	Subscribership Ratio	Connections	Subscribership Ratio	Connections	Subscribership Ratio
Nevada	1,031	891	0.86	740	0.72	580	0.56	*	*
New Hampshire	521	484	0.93	414	0.79	373	0.72	135	0.26
New Jersey	3,195	2,945	0.92	2,792	0.87	2,696	0.84	1,076	0.34
New Mexico	763	548	0.72	332	0.43	288	0.38	80	0.10
New York	7,266	6,189	0.85	5,726	0.79	5,038	0.69	2,076	0.29
North Carolina	3,815	3,062	0.80	2,369	0.62	1,981	0.52	1,108	0.29
North Dakota	305	246	0.81	215	0.70	172	0.56	31	0.10
Northern Mariana Isl	16	*	*	*	*	*	*	0	0.00
Ohio	4,601	3,573	0.78	2,880	0.63	1,764	0.38	277	0.06
Oklahoma	1,462	1,014	0.69	741	0.51	477	0.33	140	0.10
Oregon	1,546	1,304	0.84	1,045	0.68	922	0.60	265	0.17
Pennsylvania	4,962	4,031	0.81	3,397	0.68	3,010	0.61	1,155	0.23
Puerto Rico	1,237	*	*	*	*	*	*	*	*
Rhode Island	410	363	0.88	349	0.85	314	0.76	*	*
South Carolina	1,839	1,436	0.78	1,181	0.64	731	0.40	100	0.05
South Dakota	334	259	0.78	220	0.66	188	0.56	17	0.05
Tennessee	2,522	1,865	0.74	1,576	0.62	1,207	0.48	292	0.12
Texas	9,290	7,320	0.79	6,131	0.66	4,368	0.47	2,072	0.22
Utah	918	792	0.86	601	0.65	525	0.57	214	0.23
Vermont	257	242	0.94	171	0.67	135	0.53	53	0.21
Virgin Islands	43	27	0.62	*	*	*	*	*	*
Virginia	3,090	2,534	0.82	2,204	0.71	1,967	0.64	708	0.23
Washington	2,697	2,390	0.89	1,950	0.72	1,786	0.66	682	0.25
West Virginia	739	530	0.72	373	0.50	296	0.40	72	0.10
Wisconsin	2,310	1,820	0.79	1,435	0.62	950	0.41	27	0.01
Wyoming	227	177	0.78	128	0.57	105	0.46	1	0.00
Total	119,064	97,071	0.82	80,671	0.68	64,520	0.54	21,774	0.18

= Rounds to Zero; * = Data withheld to maintain firm confidentiality.
Note: Figures may not sum to totals due to rounding.
Sources: FCC Form 477 (Connections); 2012-2016 5-year estimates; Census 2010.



Explore the definition of broadband availability

- What does “broadband” mean to the consumer?
  - FCC definition is 25Mbps down and 3 Mbps up
- What does it mean to have broadband “available” to the consumer?
  - Quality, Cost, and Time

Pew Research
65% of U.S. adults who are home broadband users (01/18/18)

Per Pew Research article in August 2013 “Our broadband question has historically tried to distinguish between dial-up users and those with higher connection speeds.”

Phone survey question: “At home, do you connect to the Internet through a dial-up telephone line, or do you have some other type of connection, such as a DSL-enabled phone line, a cable TV modem, a wireless connection, or a fiber optic connection such as FIOS

American Fact Finder
67% of households with broadband subscriptions (2013-2017)

An Internet "subscription" refers to a type of service that someone pays for to access the Internet such as a cellular data plan, broadband such as cable, fiber optic or DSL, or other type of service. This will normally refer to a service that someone is billed for directly for Internet alone or sometimes as part of a bundle

Broadband such as cable, fiber optic, or DSL

FCC
54% subscription ratio of residential fixed connections and households at least 25Mbps down and 3Mbps up

Form 477 Fixed Broadband Subscription

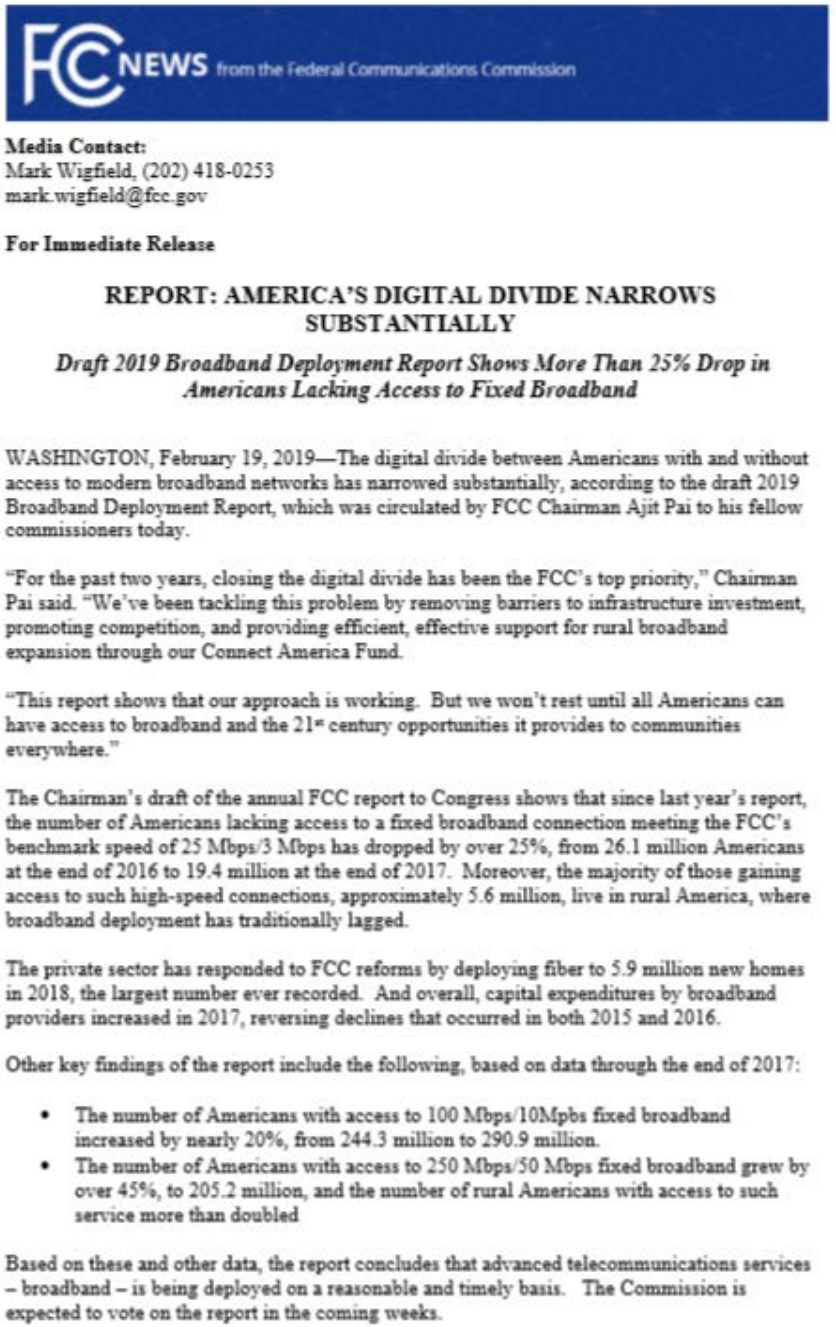
Report the total number of in-service connections—and report the number of in-service connections that are in consumer service plans—for each unique combination of census tract and service characteristic.

Broadband connections are wired “lines” or wireless “channels” that enable the end user to receive information from and/or send information to the Internet at information transfer rates exceeding 200 kbps in at least one direction

Draft FCC 2019 broadband report

- ~2-point increase in national broadband availability from ~92% to ~94%
- ~9-point increase in broadband availability in rural areas from ~69% to ~78%
- FCC 2019 broadband report has not been finalized and percentages are estimates

- https://thedcoffice.com/late_releases_files/02-19-2019/DOC-356271A1.pdf



FCC NEWS from the Federal Communications Commission

Media Contact:
Mark Wigfield, (202) 418-0253
mark.wigfield@fcc.gov

For Immediate Release

REPORT: AMERICA'S DIGITAL DIVIDE NARROWS SUBSTANTIALLY

Draft 2019 Broadband Deployment Report Shows More Than 25% Drop in Americans Lacking Access to Fixed Broadband

WASHINGTON, February 19, 2019—The digital divide between Americans with and without access to modern broadband networks has narrowed substantially, according to the draft 2019 Broadband Deployment Report, which was circulated by FCC Chairman Ajit Pai to his fellow commissioners today.

"For the past two years, closing the digital divide has been the FCC's top priority," Chairman Pai said. "We've been tackling this problem by removing barriers to infrastructure investment, promoting competition, and providing efficient, effective support for rural broadband expansion through our Connect America Fund.

"This report shows that our approach is working. But we won't rest until all Americans can have access to broadband and the 21st century opportunities it provides to communities everywhere."

The Chairman's draft of the annual FCC report to Congress shows that since last year's report, the number of Americans lacking access to a fixed broadband connection meeting the FCC's benchmark speed of 25 Mbps/3 Mbps has dropped by over 25%, from 26.1 million Americans at the end of 2016 to 19.4 million at the end of 2017. Moreover, the majority of those gaining access to such high-speed connections, approximately 5.6 million, live in rural America, where broadband deployment has traditionally lagged.

The private sector has responded to FCC reforms by deploying fiber to 5.9 million new homes in 2018, the largest number ever recorded. And overall, capital expenditures by broadband providers increased in 2017, reversing declines that occurred in both 2015 and 2016.

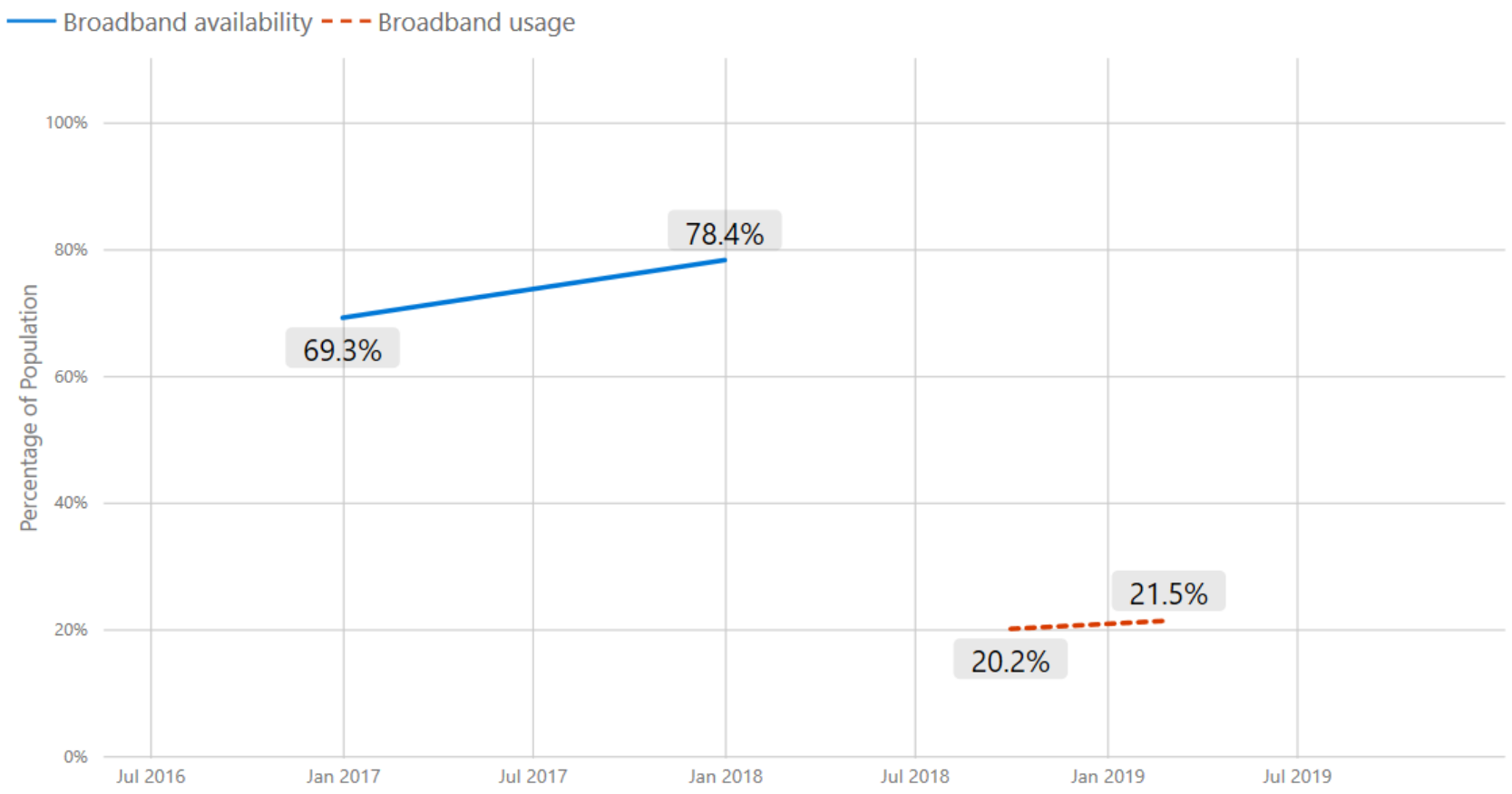
Other key findings of the report include the following, based on data through the end of 2017:

- The number of Americans with access to 100 Mbps/10Mpbs fixed broadband increased by nearly 20%, from 244.3 million to 290.9 million.
- The number of Americans with access to 250 Mbps/50 Mbps fixed broadband grew by over 45%, to 205.2 million, and the number of rural Americans with access to such service more than doubled

Based on these and other data, the report concludes that advanced telecommunications services – broadband – is being deployed on a reasonable and timely basis. The Commission is expected to vote on the report in the coming weeks.

FCC broadband availability increase from year prior did not translate to a similar increase in broadband usage based on Microsoft data, especially in rural areas

Note: FCC 2019 broadband report has not been finalized and percentages are estimates



Data sources: FCC 2018 Broadband Report, draft FCC 2019 Broadband report, and Microsoft data

Urban or Rural areas

- [x] Rural
- [ ] Urban

State (select one)

- [ ] Alabama
- [ ] Alaska
- [ ] Arizona
- [ ] Arkansas
- [ ] California
- [ ] Colorado
- [ ] Connecticut
- [ ] Delaware
- [ ] District of Columbia
- [ ] Florida

FCC 2019 broadband report has not been finalized, percentages based on draft report.

FCC broadband availability:
provides or "could" provide greater than or equal to 25Mbps / 3Mbps
Urban or rural designation based on census block level population

Broadband usage
based on internet connection speed greater than or equal to 25Mbps
Urban or rural designation based on county level population

END